Geography

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The lack of an audience genuinely interested in what the student says and does leads to a result deplored by every teacher of wide experience—a lack of enthusiasm in recitation.

When forty pupils are requested to write upon the same subject, for no other apparent reason than that the teacher, who already knows what they have to tell, may read their papers, mark them with a blue pencil, or gently consign them to a waste-basket, they are frequently induced to put forth the necessary effort only by means of bribes or threats.

To secure for our pupils the consciousness of an interested and appreciative audience an effort is being made to establish a correspondence between the students of the Chicago Institute and students in certain schools in foreign places. The object in view is to establish personal relations between our pupils and the other people of the world.

Our pupils will send to the foreign children specimens of their regular school work, such as drawings, paintings, small pieces of work in textile fabrics, written exercises, photographs of field, laboratory, and dometic science work. Something of the geography, meteorology, botany, zoölogy, history, and industrial activities of this region will appear in the descriptions. By this means we hope to give the children of other lands a picture of certain phases of life in this locality, including the games of the children, their home life, theaters and other entertainments.

We trust that our friends in other countries will so far as is possible give us a similar account of their lives and surroundings.

A child who represents in color a landscape, a bird, or autumn flowers, models in clay the animals in the zoölogical garden, or describes the sand dunes near Chicago for other children whom he knows of as friends through their letters, and whom he knows to be unacquainted with this environment, will have a far deeper interest in his work than an inferior motive can command.

Moreover, descriptions of foreign countries found in books seem colorless to children when compared with similar statements in personal letters. A letter from a child in Northern Norway stating that at Christmas-time he goes to school by moonlight, as the sun, at this time of year, is not seen for some weeks at his home; or one from Sidney, Australia, telling of the heat at Christmas driving the people to seek comfort in the mountains; or a letter from Java telling of yearly summers and almost equal days and nights throughout the year, will arouse questions in the student's mind, the solution of which will lead him into many interesting phases of geography,

The close relation which a personal correspondence with the different nations suggests, leads to the development of a fraternal attitude toward all peoples—a world sympathy — which is one of the highest aims of our teaching.

Schools in Correspondence with the Chicago Institute

Mexico City, Mexico; Hilo, Hawaiian Islands; Honolulu, Hawaiian Islands; Tokio, Japan; Kobe, Japan; Fusan, Korea; Seoul, Korea; Shanghai, China; Calcutta, India; Udaipur, India; Kandy, Ceylon; Djokjakarta, Java; Cairo, Egypt; Jerusalem, Palestine; Athens,

Greece; Christiania, Norway; Berlin, Germany; Paris, France; Vienna, Austria; Rome, Italy; Sidney, Australia; Wellington, Cape Colony; Manila, Philippines; Havana, Cuba.

Physiography of the Land

NINTH GRADE

X. Glaciers. The work during this month will be a development of the study of glaciers and glacial formations, as introduced on the several field trips taken earlier in the quarter. The syllabus given in the November number, pages 187 and 188, suggests the manner in which the subject will be treated. The references on glaciers, given on page 188 of the same number, need not be repeated here.

General Geology

ELEVENTH GRADE

During the months of October and November it has been the aim, in this course, with the aid of the field trips, to have the students become acquainted with those processes which are to-day bringing about great geological changes, and also to have them become familiar with the common rocks and with the structural forms found in the great rock-formations.

This month the work will be based on the study of physiographic areas of the United States beyond our immediate environment. In this study it will be the aim to introduce enough geology to make the history of each area clear and the picture of the present conditions in each area real. After this ground has been covered it is hoped that the general subject of Historical Geology and Continental Evolution will mean more to the student.

IX. The Coastal and Gulf Plains.

1. Location and physiographic boundary. (a) The "Fall-line." Geological conditions at the "Fall-line." Relations of these falls to the early history of this country. (b) The present shore-line. How is it changing? (c) The edge of the continental shelf.

2. Topography of the coastal plains.

3. Drainage of the coastal plains. (a) What is the story of the old rivers crossing the lowland? (b) What is the story of the young rivers of the lowland?

4. Geological formation and structure. (a) Origin of the material. (b) Present condition of the sediments. (c) Artesian wells in the sand-reefs.

5. Settlement and development. (a) Location of towns. (b) Occupations of people.

X. The New England Plateaus:

1. Location and physiographic boundary. (a) The inland margin of the area. (b) The present coast line. How is it changing? What recent changes has it suffered? Influence of shore line on settlement and occupations in New England.

2. Topography of New England. (a) Erosion history. (b) Glacial history.

3. Drainage of New England. (a) Story of the old rivers. (b) Explanation of the lakes.

4. Geological formations and structure. (a) How have these influenced the development of the topography?

5. Settlement and development. (a) Location of towns. (b) Occupations of the people.

XI. Piedmont Plateau. 1. Location and physiographic boundary. (a) The Fall-line. (b) The Appalachian mountains.

2. Topography. Its erosion history.

3. Drainage of the Piedmont belt.

4. Geological formations and structure. (a) How have these influenced the development of the topography?

5. Settlement and life in the Piedmont belt.

XII. The Appalachian mountains. 1. Location and physiographic boundary.

2. Topography of the mountains. (a) Develop fully the erosion history of this belt. (b) Influence of topography on migration of peoples.

3. Drainage of the Appalachian. (a) The story of the great rivers.

4. Geological formations and structure. (a) Source of material. (b) Original position of sediments. (c) Present position of beds. (d) Mineral resources of this area.

5. Settlement and development. (a) Location of towns. (b) Occupations of the people. (c) History of migrations through this belt.

If time permits other areas will be treated much the same as suggested above.

References: Scott, *Introduction to Geology;* J. W. Powell, *Physiographic Regions of the United States;* Davis, *Physical Geography;*

Davis, *The Physical Geography of Southern New England;* Bailey Willis, *The Northern Appalachian;* C. W. Hayes, *The Southern Appalachian.*

Pedagogic School

The course of study for the Pedagogic School for December will be the consideration of the motive for teaching the subjects outlined below, together with the application to the different grades. The invention of laboratory experiments by which the forces and results in nature can be produced in miniature will be strongly encouraged.

I. Wind: Its use and work.

(See Meteorology—Course of Study, October.)

1. Evidences of air currents.

Report observations in movement of clouds, smoke, dust, leaves. Height to which seeds and other materials are carried.

2. Velocity: of ordinary wind; of storms.

3. Direction of wind movement at Chicago; of prevailing winds; of storm winds; of clearing winds.

Field Trip to Dune Park.

Students were given the following syllabus as an aid in the field:

FIELD WORK AT DUNE PARK

Material Needed: Take, if possible, baskets, knives, bottles or jars, compass, clinometer, level, magnet, trowel, hydrochloric acid, notebook, and drawing material.

I. Points of Observation

I. Between Chicago and Dune Park.

Topography of the country.

1. Relation of land and water. Presence or absence of rivers, lakes, swamps; shape of valleys; wearing or building of streams.

2. Relation of ridges to depressions. Height, width, and direction of ridges; distance between ridges; drainage of depressions.

3. Material of ridges.

4. Vegetation on ridges, in swamps.

II. At Dune Park.

Topography of the region; relation of hills and depressions. (a) Walk to the ridge south of the railroad track, estimate the distance between this ridge and the next distant south ridge. Note topography, soil, and vegetation of the intervening depression; note soil and vegetation of the ridge. (b) Walk northward toward the lake.

1. Hills: Find a hill where a cut reveals material. Shape, height of the hills. Measure the inclination of the steepest slope; the least inclined slope; note the direction of each. Material found; shape, size, composition, stratified or unstratified. Note definitely how the wind is affecting the sand to-day; beginning of dunes; relation to obstructions; relation to direction of wind; exact process of formation.

2. Depressions: Shape; soil; comparative altitude; relation of depressions to each other.

3. Lake shore: Shape of the coast; width of the beach; angle the waves strike the shore; shape and height of the waves as they approach the shore; material brought in by waves; direction of return of the water from the shore; material taken back by the waves; color of water near the coast, off the coast. Note the exact process of the formation of beach ridges.

II. Vegetation

I. Swamps.

1. Make a careful collection of specimen plants which are found: (a) in the dryer portions; (b) on the margins; (c) growing in the water.

2. Make a careful diagram showing the position of each kind of plant in its relation to the swamp.

3. Is the present vegetation tending to perpetuate or to extinguish the swamp?

4. Is there any evidence of an earlier vegetation in the swamp areas?

5. What kinds of woody plants are found in the swamp areas? Have any trees gained considerable age? The oldest?

Note.—If you do not know the names of the trees, bring to the class with you small pieces of the wood, and small branches with leaves.

6. Do the plants tend in any way to spread the marsh-like conditions?

7. Consider the part played by each kind of plant found in the swamp: (a) the pond-lilies; (b) the rushes; (c) the algæ; (d) the grasses and sedges.

8. Can you see any interrelations among these plants?

9. How many of these plants are flowering—*i. e.*, produce true seeds?

10. How are these seeds distributed? What plants adapt their seeds for water distribution?

Do the seeds float? When? Can you find them at the bottom of the water?

NOTE.—In all cases, collect and bring specimens to class with you.

11. Are the plants mostly annual or perennial? Are the conditions more favorable for one than the other?

12. In what ways do the vines find favorable conditions?

13. Consider what must become of the plant at the end of the growing season; what are the chances of fossilization?

14. What would be the first steps to be taken in reclaiming the marsh for the purpose of raising cultivated plants that might be grown here?

15. Are there any swamp-loving cultivated plants that might be grown here?

16. Are there any peat formations that might be used as fuel?

17. Are there any signs of bog-iron ore deposits about the marsh?

18. What are the relations of the swamp to bog-iron ore deposits?

NOTE.—Collect and bring to school for laboratory study a sample of swamp water, a pint bottle full at least.

II. THE SAND DUNES.

1. Look for the line which divides the vegetation of the marsh from that of the dunes. What plants grow on both sides of the line?

NOTE. — Collect specimens of the plants that grow on both sides of the line, and bring them to school for laboratory study.

2. What plants seem to get the first firm hold in the new sand-hills? Observe carefully the advance line of the dunes.

3. What efficacy have the marsh plants in retarding the drifting sands?

4. Where is the greatest variety of plants found, in the marshes or on the dunes? Determine by actual count.

5. Make a special study of the cactus; collect specimens of the entire plant.

6. What adapts it to the dune rather than to the marsh? Compare with the pond-lilies — root, leaf, stem, flower, and fruit. [The fruit is non-poisonous.]

7. What are its methods of distribution?

NOTE. — Bring ample specimens of the cactus to school for laboratory study.

8. Make diagrammatic map of the dunes between the marsh and the lake shore, and mark their ages as shown by the vegetation.

9. Note the kinds of trees growing on the dunes; compare with those growing in the swamp.

10. Note the relative ages of those on the dunes and in the swamp.

11. Study the belt of vegetation nearest the lake shore. What part does it play in the formation of the dunes inland?

12. Since the ridge of the sand is nearest the source of the sand, how does it happen that plants can gain a foothold here more easily than they do immediately inland?

13. What causes the interruptions in the shore ridge of sand?

14. Make a sketch of one of the newer dunes and show on which slope the plants gain a foothold first. Can you see a reason?

15. Which are the first woody plants to take possession of the dunes; the deciduous trees or the conifers? Is there any reason evident?

III. Animal Life

I. IN THE SWAMP.

1. What forms are provided for largely by the plant life of the swamp?

2. What peculiarities of structure enable some forms to take advantage of both land and water in the swamp?

3. Are these same forms to be found on the lake shore? What reasons?

4. Do any animals find it possible to take advantage of the swamp mud at the bottom of the water?

5. Are any birds attracted by the berries or dry seeds of the plants?

6. Can you see any special adaptation of this class of birds to the swamp life?

7. Are such birds permanent or temporary residents?

8. What swamp birds are songsters? Can you see any adaptation here?

9. Are there any birds that get their food from the water only? From the mud under the water? From the swamp margin?

10. Between what animal forms can you see the greatest conflict?

NOTES. — Bring to school for identification and further study specimens of the various forms found.

Fill a quart jar by immersing it and allowing aquatic plants to enter with the water. Bring to school for inspection with the microscope.

11. Are swamp conditions favorable for mammalian life?

12. Are there mammals present?

13. Are there many evidences of the past animal life of the swamp?

II. On the Dunes.

1. Which precedes, if either, the animal or plant, in the establishment of itself upon the dunes?

2. What are the adaptations required to fit an animal for dune life?

3. What birds, if any, peculiar to the dunes? What are their adaptations?

4. To what extent is the life of the birds associated with the vegetation and sand on the dunes?

5. Does the lake shore or the lake show any contrasts in bird life? What adaptations required in this area?

Note. — Collect specimens of the dune insect life, and bring to school for identification and further study.

6. Are there any traces of past animal life about the dunes?

7. Do they furnish any support for mammalian life?

8. Do you find any evidences of conflict among the different forms?

Model a map of the Dune Park region. Make a map of Chicago and environs, including all the points visited in the field trips.

1. Dunes and associated swamps.
   a. Relation to present lake shore.
   b. Building and movement of dunes; relation to wind; to vegetation. (Note: Make a sand dune in laboratory.)
   c. Source of sand supply.
   d. Currents of Lake Michigan. See current chart of Lake Michigan.
2. Use of the dunes.
3. Location of sand dune areas of the world. Account for distribution.
4. Influence of sand dunes on the industries of inhabiting people.
5. Influence of wind on bodies of water.
   a. Waves.
   b. Currents.
6. Influence of wind on distribution of vegetation; of animals.
7. Sanitary use of wind.
8. Man's control of wind as a working force.

Questions:

In what grade should the study of the winds begin?

What aspect is appreciated in the different grades?

What experiments in physics does the subject necessitate?

In what grade would you teach the use of the thermometer, barometer, and anemometer?

What is the educational value of the daily weather maps?

How use the child's interest in kite-flying, boat-sailing, balloons, and flying machines, in teaching the winds?

What mathematical problem does the right teaching of the subject demand?

What, if any, is the value of the use of such wind stories as the "Harpies," and "Story of Paw-puck Keewis" in connection with the story of the winds?

Make a list of appropriate wind stories.

What wind songs do you consider appropriate?

Write a plan for teaching the winds to any grade you prefer.

References: Weather map of the United States, Davis, *Elementary Meteorology;* Davis, *Physical Geography;* Ferrell, *Popular Treatise on the Winds;* Waldo, *Elementary Meteorology;* Geike, *Physical Geography;* Mills, *Realm of Nature;* Archibald, *The Story of the Atmosphere;* Gregory, *Elements of Physiography;* Reclus, *Earth*, p. 90.

Changes in Progress Beneath the Surface of the Earth

1. Evidences of the movement of the earth's crust in this region.

(a) How was Stony Island formed?

(b) Possible heights of Stony Island?

2. Mountains: (a) Appearance; (b) Location. Cause of the great mountain systems. (c) Associations. (d) Formation: by folding, by faulting, by erosions. Examples of each. Make mountain range in laboratory. (e) Use, in relation to moisture; drainage of continents; relation to distribution of plants, animals, and peoples. (f) Esthetic value of mountains.

What mountain systems have acted as fortifications for historic peoples?

How may a mountain range change from a defense for a people to a weakness?

3. Volcanoes: Visit Field Columbian Museum to see volcanic products and models of volcanoes. (a) Appearance of volcanoes, active

and inactive. Read Pliny's description of the eruption of Vesuvius. (b) Location in relation to mountain ranges. (c) Formation. Laboratory experiment in formation of volcanoes. (d) Use of volcanoes. (e) Influence of mountains and volcanoes on the mythology and religious beliefs of primitive peoples. Location of noted sacred mountains.

Questions:

Can people living on a plain have an image of mountains?

How introduce a study of mountains to children of the plains?

What is the value of projected pictures over small photographs?

What is the best way of reproducing in miniature the processes of mountain-making?

Make a reading list for children on the subject considered during the month.

Write plan for teaching the subject to any class you may choose.

References: Scott, *Introduction to Geology*, pp. 332–342; Dana, *Manual of Geology*, pp. 24–28, 345–371; Geikie, *Text-book of Geology*, pp. 1071–1089; Reclus, *Mountains;* Hutchinson, *The Story of the Hills;* Reclus, *The Earth;* Mill, *Realm of Nature.*

History and Literature

Emily J. Rice Gudrun Thorne-Thomsen

Elementary School

The value of our work in history depends largely upon the power of the pupils to relate the life of the past to present social conditions. For this reason, in planning the course of study, it was necessary to consider at each step the basis which the pupils had gained by actual experience. The chronological order of the subject-matter is not our guide in teaching children. Observation of events and participation in certain phases of community life furnish the only material by which they can interpret historic facts. The study of the past should react upon the present and give fuller meaning to experience. It will do this when social conditions and historical ideas and events are given their proper connection in our teaching. From such an arrangement of work we may hope for a gradual growth of interest in industrial conditions and local institutions, and may cultivate habits of looking beneath the surface of things to discover their meanings.

Although first-hand knowledge is valuable at all times in the study of history, still, when the children are beginning to interpret the deeds of men, it is especially necessary that they should have material furnished by the immediate environment. This material may be found in the industries of the community, in local institutions, and in current events. From these we have selected, for special emphasis this quarter, the visit to a farm made by the entire school in October, and the presidential election. It is not intended that these shall be studied to the exclusion of those institutions which were made the basis of the course of study for each grade; these topics are to be considered because they are of especial interest at the present time, and considered by each grade in such a way as to aid the regular history work.

The trip to the farm has given the little children an opportunity to see the connection between the home and the farm, the source of some of the common foods, and the labor by which this food is produced. The methods of transportation of food to the city, and its distribution, with kinds of work and amount of labor involved, may also be considered.